



STARBOARD TEN, INC.

MARITIME FORENSIC SERVICES

**EXPERT OPINION REPORT
OF
CAPTAIN JOHN C. TIMMEL**

IN THE CASE OF

UNITED STATES OF AMERICA

V.

GREG ABBOTT

**IN HIS CAPACITY AS GOVERNOR OF THE STATE
OF TEXAS AND THE STATE OF TEXAS**

COURT:	IN THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF TEXAS AUSTIN DIVISION
CASE NO.:	23 - CV - 00853
REPORTDATE:	MAY9,2024
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I. INTRODUCTION & SCOPE OF REPORT

A. INTRODUCTION:

On September 28, 2023, Starboard Ten Maritime Forensic Services received an email from Mr. Brian Lynk, Esquire, Senior Trial Counsel for the Environmental Defense Section of the Environment & Natural Resources Division of the US Department of Justice, regarding the case United States of America v. Abbott. I responded to Mr. Lynk's email, had several phone conversations with him, and on January 24, 2024, was notified that I was being retained to review and analyze the situation, circumstances, and evidence described in Section III and IV of this report, and to render opinions as to the impact, if any, the marine floating barrier installed in the Eagle Pass, Texas section of the Rio Grande has upon the navigable capacity of that waterway. Since being retained, I have conducted research and reviewed the documents, evidence, and resources listed in Section VIII. Additionally, I participated in a site visit on the Rio Grande in Eagle Pass, Texas, on February 20, 2024, with particular focus on: (1) the section of the Rio Grande in which Texas has installed a 1,000-foot-long section of marine floating barrier, and (2) the barrier itself.

The analysis and opinions presented herein are based upon information contained in the court documents, declarations, hearing testimony, photos, diagrams, tables, exhibits, and other materials made available to me. Additional facts, data, and knowledge gleaned from websites, consultation with peers and other experts, and from extensive research conducted during the preparation of this report, were also considered. All such fact and data sources considered have been listed in Section VII of this report.

I reserve the right to make revisions, corrections, and/or amendments to this report as new or additional information becomes available.

B. SCOPE OF REPORT:

This report strives to provide answers to the following questions from a professional mariner's and/or recreational boater's perspective to help establish the standard of care.

1. How does a professional mariner determine if a body of water that he or she is or is planning to operate upon is classified as a navigable water and with which rules they must comply?

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2. Utilizing the methodology described above, is the Eagle Pass section of the Rio Grande classified as a "navigable water of the United States," as understood by professional mariners, and therefore subject to the "U.S. Inland Rules of the Road"?
3. Are the orange sphere components of the marine floating barrier buoys or floats?
4. What type of structure is the marine floating barrier that is installed in the Eagle Pass section of the Rio Grande?
5. Does the marine floating barrier create a navigational obstacle and/or obstruction?
6. Is the marine floating barrier a hazard to navigation?
7. Does the marine floating barrier diminish the navigable capacity of the Rio Grande?

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II. EXPERT'S QUALIFICATIONS

BACKGROUND, TRAINING & EXPERIENCE:

The opinions in this report have been rendered relying upon my education, training, background, and experience as a professional mariner in the fields and disciplines of seafaring, commercial shipping, piloting, shiphandling, tug and barge and harbor tug operations, yachting, and safe boating practices over the last forty-five years. Early in my career, after graduating with honors with a B.S. Degree in Marine Transportation from the New York Maritime College at Fort Schuyler in 1981, I spent nearly seven years as a ship's officer in numerous capacities on board a variety of vessel types and sizes. On board these vessels, I sailed the Atlantic, Pacific, and Gulf of Mexico coastal waters of the continental United States, as well as Alaska, the Caribbean, and Central America. Significant to this case, I have served as a professional mariner navigating numerous river systems throughout the United States. These rivers include the following eighteen (18) U.S. Rivers: Connecticut River, Delaware River, Hudson River, East River, James River, Cape Fear River, Cooper River, Ashley River, Beaufort River, Wilmington River, Savannah River, St. Mary's River, St. John's River, Alafia River, San Jacinto River, Mississippi River, Ohio River, and Columbia River. Of these rivers, the Alafia River in Tampa Bay is most pertinent to this case as it has some similarities to the Rio Grande in that it was originally a narrow, shallow river that in the early 1930's had a depth of six (6) to fifteen (15) feet and was unsuitable for deep draft commercial vessel traffic.¹ Since then, it has been dredged to successively greater widths and deeper controlling depths and, thereby, transformed into a thriving commercial channel that can accommodate vessels just as the Rio Grande could be.

While serving as a ship officer, I was actively involved in shipboard business and operations, vessel navigation, cargo operations, safety oversight, crew management and training, and supervision of the maintenance and repair of the vessels upon which I served. Of these shipboard duties, navigation is of the highest importance in relation to this report because as Second Mate one is the Navigation Officer and is responsible for voyage planning, which includes determining which rules and regulations your vessel will be subject to when

¹ Review of Previous Reports, Alafia River, Letter from the Secretary of War, War Department, Office of The Division Engineer, South Atlantic Division, August 1, 1940

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traversing different bodies of water. Also, during this period, I worked for several months as a mate aboard harbor tugs in the ports of Tampa Bay.

In 1988, I became a harbor pilot with the Tampa Bay Pilots Association. Over the course of thirty-two years I have made nearly 8,000 narrow channel transits aboard vessels of all types and sizes including tugs and barges, in all types of situations and conditions. Most noteworthy to this case, many of these transits were conducted in the Alafia River and confined channels even more narrow than sections of the Rio Grande in the Eagle Pass area. Also significant is that even though this piloting is conducted in water deeper than the Rio Grande, it was oftentimes done with very limited clearance between the keel of the ship and the bottom of the channel or river, frequently less than three (3) feet on ships the length of three football fields with drafts (depths) of forty (40) feet or more.

During my over three (3) decades as a Tampa Bay Pilot, I served as Director of Deputy Pilot Training, Co-Director of Safe Vessel Handling Guidelines, President of the Tampa Pilots, and Vice President of the Florida Harbor Pilots Association, which represents all the commercial ports in the State of Florida. These positions provided me with frequent interaction with the U.S. Coast Guard and the U.S. Army Corps of Engineers. After five years as Senior Pilot, I retired from piloting in May of 2022. I have also served as an Adjunct Professor teaching shiphandling, piloting, navigation, watchstanding practices, and seamanship to the cadets aboard New York Maritime College's training ship, the T/S EMPIRE STATE VI, during three (3) Summer Sea Terms. An element of the courses was how to determine which sets of navigational rules apply.

Concurrent to my career as a pilot, I was quite involved in numerous marine industry endeavors and activities. I founded and served as president of Tampa Bay Vessel Information & Positioning System, a not-for-profit organization, which initiated the development of a computerized, GPS-based, portable pilot vessel navigation system that has been used as a model for systems in numerous ports world-wide. I was also very involved in the development of NOAA's Physical Oceanographic Real Time System project, which is a system developed, in part, in Tampa Bay that provides real-time tide, current, and meteorological information to mariners. I served as the Mayor's Maritime Liaison for the City of Tampa for three (3) mayors. In these professional leadership roles, I have been called upon to testify before the Congress of the United States and the National Academy of Science and have presented papers both in the U.S. and internationally regarding GPS technology as an emerging tool for marine navigation.

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In 1999, I founded and was president of the American Victory Ship Mariners Memorial and Museum Ship. This 455' WWII Victory-class ship was brought from the James River Reserve Fleet in Virginia to the Channelside District of Tampa and restored to steaming condition, made into a maritime museum, and has conducted over a dozen Relive History Cruises on Tampa Bay.

I also am the founder, president, and maritime expert witness of Starboard Ten Maritime Expert Witness Services, which provides expert witnesses for accident reconstruction, litigation services, and expert testimony for both recreational boating accidents and commercial shipping admiralty law cases.

In 2018, I was co-founder of the Gulf Coast Maritime Academy in Tampa, which was a USCG certified commercial and boating safety training and licensing school. I served as its President and CEO through December 2023.

In addition to being active in the port community, I have also been and currently am very involved in the boating and yachting communities at many different levels. Growing up on the water in Ft. Walton Beach, Florida, I have been boating nearly all my life and have over sixty (60) years of experience on the water. This includes founding and leading a Boy Scouts of America Sea Explorer Ship and serving as Youth Sailing Director, Fleet Captain, Governor, and Commodore of the Tampa Yacht Club. Further, I was a Director of the Florida Council of Yacht Clubs, representing thirty-seven (37) yacht clubs throughout the State of Florida. Over the course of the last nine (9) years, I served as the Council's Gulf Coast Fleet Captain & USCG Liaison and as a member of the Council's Executive Committee. Most recently, I served as Rear Commodore, Vice Commodore, and was Commodore in 2022 - 2023.

These opportunities and leadership positions, along with my training, education and over six (6) decades of on-the-water background and experience, have given me specialized and practical knowledge in many areas of commercial marine operations as well as in pleasure craft and yachting safety, standards, and practices.

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III. CASE SUMMARY

The Rio Grande (Rio Bravo del Norte in Mexico) is approximately 1,896 miles in length, is the 5th longest river in North America, and the 20th longest in the world.² In places it forms a natural border between Mexico and Texas. This is the case in the Eagle Pass, Texas, region of the river.



EXHIBIT # 1 - MAP OF THE RIO GRANDE ORIGINATING IN COLORADO AND EXTENDING THROUGH NEW MEXICO, TEXAS AND MEXICO FLOWING INTO THE GULF OF MEXICO

In early July 2023, Texas installed a "marine floating barrier"³ in the Eagle Pass segment of the Rio Grande with the expectation that it would help diminish or prevent unauthorized crossing of the river.

² Britannica, <https://www.britannica.com/place/Rio-Grande-river-United-States-Mexico>

³ Cochrane Global, <https://www.cochraneglobal.com/maritime-security-marine-floating-barrier-by-cochrane-global/>

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EXHIBIT #2 - AERIAL PHOTO OF THE EAGLE PASS SEGMENT OF THE RIO GRANDE WITH TEXAS'S MARINE FLOATING BARRIER VISIBLE ON EAST SIDE OF RIVER⁴

The U.S. Army Corps of Engineers, Fort Worth District, has permitting and regulatory enforcement authority over the navigable waters of the United States in this region, and has Congressionally-delegated authority to permit structures that diminish the navigable capacity of the Rio Grande. The U.S. Department of Justice is seeking a determination of whether the marine floating barrier impacts navigation and navigable capacity and, if so, how.

⁴ DigitalGlobe, Inc. (October 16, 2023)

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IV. DISCUSSION & BASES OF OPINIONS

PREAMBLE:

It is well understood by me that it is the plaintiff and defense counselors' jobs to argue and offer reasons as to the intended meanings of fundamental words and phrases of rules, regulations, and laws, and that the accepted definitions of this verbiage may directly influence or guide the outcome of this case. Likewise, it is respectfully acknowledged that it is the Court's role and privilege to make the determinations that will resolve the controversies under consideration. It is nevertheless incumbent upon all professionals to have a well-founded and thorough working knowledge and understanding of the meanings of the jargon significant within their occupations. More importantly, they must have exceptional clarity regarding the rules, regulations, and laws that prevail over their professions to be able to attain and provide the accepted standards of care within their areas of expertise. This is especially true of professional mariners and rivermen. It is essential that they have a complete and accurate awareness of the terminology traditionally and currently used, and it is imperative that they have a clear understanding as to which navigation rules are in effect on the waterways upon which their vessel is traversing. It is at this working level that accepted definitions and explanations of phraseology are proffered within this report.

DISCUSSION AND BASES OF OPINIONS

1. How does a professional mariner determine if a body of water that he or she is or is planning to operate upon is classified as a navigable water and with which rules they must comply?

It is essential that a mariner/riverman is aware of which authority has oversight of a waterway they are traversing and what body of rules and regulations are in effect. If they are on a body of water that is familiar to them, which quite often is the situation, or if others onboard the vessel have such familiarity, this is generally an established and known fact. If a navigator is making a voyage plan for a body of water unknown to them, they rely upon accepted sources that indicate the regulatory bodies that have authority and what laws apply to their vessel and its operation. One of the determinations that *must* be made, if not previously known, is whether the body of water is classified a "navigable water-of the United States." This is extremely important to ascertain because the answer to this

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question indicates which set of navigational rules must be followed: International Rules of the Road, or Inland Rules of the Road. If, in fact, the waterway is a "navigable water-of the United States," then Inland Rules must be followed, and the vessel falls under the authority of federal agencies including the U.S. Coast Guard and U.S. Army Corps of Engineers. There are several primary and reliable sources available for mariners or rivermen to do this. They include:

A. Admiralty Sailing Directions: The Admiralty Sailing Directions are intended to provide necessary information for the oceangoing mariner. It is used primarily by international mariners to obtain critical information about ports around the world. U.S. merchant mariners use them when calling upon foreign ports. There is an edition of the Admiralty Sailing Directions for the "East Coasts of Central America and Gulf of Mexico, which contains a section entitled, "CHAPTER 7 - Rio Grande to Calcasieu Pass," however, there is no mention of the Eagle Pass section of the Rio Grande within it.

B. United States Coast Pilots are resources published by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Ocean Service. They consist "of a series of nautical books that cover a variety of information important to navigators of coastal and intracoastal waters and the Great Lakes. Issued in ten volumes, they contain supplemental information that is difficult to portray on a nautical chart."⁵ They are indispensable tools and are required aboard commercial vessel above a certain size and/or in a particular trade. A navigation officer will refer to these when planning a voyage and they are kept in an easily accessible location of the wheelhouse for quick reference while navigating.

The volume of Coast Pilot for the section of the Gulf of Mexico in which the Rio Grande is located is Coast Pilot 5, Gulf of Mexico, Puerto Rico and Virgin Islands. The most recent edition available at the time of the writing of this report was the 52nd Edition (2024). In Chapter 2 of this edition of Coast Pilot 5⁶ the Navigation Regulations prescribes which regulations a vessel must follow

⁵ United States Coast Pilot, Office of Coast Survey - <https://www.nauticalcharts.noaa.gov/publications/coast-pilot/index.html#:~:text=The%20United%20States%20Coast%20Pilot,portray%20on%20a%20nautical%20chart.>

⁶ Coast Pilot 5, Gulf of Mexico, Puerto Rico and Virgin Islands, https://nauticalcharts.noaa.gov/publications/coast-pilot/files/cp5/CPBS_WEB.pdf

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The introductory paragraph to Chapter 2 - Navigation Regulations states, "This chapter contains extracts from Code of Federal Regulations (CFR) that are of importance to mariners in the area covered by this Coast Pilot. Sections of little value to the mariner are sometimes omitted." In 33 CFR, §162.75 - Inland Waterways Navigation Regulations within Chapter 2, page 134, Section §207.180, Paragraph (a)⁷ within Coast Pilot 5, it states "The regulations in this section shall apply to: (1) Waterways. All navigable waters of the U.S. tributary to or connected by other waterways with the Gulf of Mexico between St. Marks, FL, and the Rio Grande TX (Qoth inclusive) [emphasis added], and the Gulf Intracoastal Waterway; except the Mississippi River, its tributaries, South and Southwest Passes, and the Atchafalaya River above its junction with the Morgan City-Port Allen Route." Pertinent definitions are included in following paragraphs: "(4) Vessels. The term "vessels" as used in this section includes all floating craft other than rafts; (5) Rafts. The term "raft" as used in this section includes all types of assemblages of floating logs or timber fastened together for support or conveyance."

In some instances, a mariner needing to find information or more detailed descriptions of a topic not fully covered in Chapter 2 is instructed to refer to 33 CFR from which most of the chapter is drawn. For example, in Part 162 in Section §207.180, Paragraph (b) it specifies the body that has authority over these waterways and the scope of their authority. It states, "(b) Authority of District Engineers. The use, administration, and navigation of the waterways and structures to which this section applies shall be under the direction of the officers of the Corps of Engineers, U.S. Army, in charge of the respective districts, and their authorized assistants."

In Chapter 11, on Page 454, there is short description about the Rio Grande that states the river, "forms the International boundary between the United States and Mexico for 1,241 statute miles."

In Part 164-Navigation Safety Regulations, under the chapter Navigation Rules, Rule 1 - Application (Inland), Paragraph (a) it states, "These rules apply to all vessels

⁷ Coast Pilot 5, Gulf of Mexico, Puerto Rico and Virgin Islands, Page 134, §162.75,
https://nauticalcharts.noaa.gov/publications/coast-pilot/files/cp5/CPB5_WEB.pdf

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upon the inland waters of the United States [emphasis added], and to vessels of the United States on the Canadian waters of the Great Lakes to the extent that there is no conflict with Canadian law. These Rules have preemptive effect over State or local regulation within the same field." It should be noted that in the title for this chapter it states on page 136 that the Navigation Rules provided are only "in part" and that "For a complete description of this part see 33 CFR 164." Most vessels have pertinent CFRs onboard, or they are readily accessible online.

By reviewing the sections of the United States Coast Pilot 5 listed and excerpted above and the cited CFRs, a mariner or riverman would have ascertained that the Rio Grande was an inland water of the United States that is under the authority of the U.S. Army Corps of Engineers' District Engineer, and subject to the Inland Navigation Rules. (in part). For a complete description of this part see 33 CFR 164.

- C. US Notice to Mariners (NTM)**⁸ are Marine Safety Information (MSI) publications by the Marine Safety Office (MSO)⁹ to provide "timely marine safety information for the correction of all US Government navigation charts and publications from a wide variety of sources, both foreign and domestic. The US Notice to Mariners corrects National Geospatial-Intelligence Agency (NGA)¹⁰ and National Oceanic and Atmospheric Administration (NOAA) Office of Coast Survey¹¹ charts using information collected from many sources, among them the Local Notice to Mariners published by the nine US Coast Guard Districts. The US Notice to Mariners will contain only those chart corrections of interest to ocean-going vessels." (The US Notices to Mariners are delivered by email each week. NTMs provide only those chart corrections of interest to ocean-going vessels and, therefore, are not applicable in this case.)
- D. Local Notice to Mariners (LNM)** "reports changes to and deficiencies in aids to navigation that are established or maintained and operated by or under the authority of the Coast Guard, and any other information pertaining to the waterways within each Coast Guard district [emphasis added] that is of interest to the mariner." They "are published weekly by each Coast Guard district or more often if there is a need to notify mariners

⁸ Notice to Mariners, <https://msi.nga.mil/NTM>

⁹ Marine Safety Office, (<https://msi.nga.mil/home>)

¹⁰ Marine Safety Information, <https://msi.nga.mil/Products>

¹¹ National Oceanic and Atmospheric Administration, Charting, <https://www.noaa.gov/charting>

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of local waterway information." "Local Notices to Mariners are available for viewing on the Coast Guard Navigation Center web site." "Any person may apply to the Coast Guard Navigation Center to receive automatic notices via email when new editions of the Local Notices to Mariners are available."¹²

- E. **Broadcast Notice to Mariners (BNM)** "are made by the Coast Guard through Coast Guard and Navy radio stations. These broadcast notices, which are broadcast on VHF-FM, NAVTEX, and other maritime frequencies, are navigational warnings that contain information of importance to the safety of navigation. Included are reports of deficiencies and changes to aids to navigation, the positions of ice and derelicts, and other important hydrographic information."¹³ Broadcast Notice to Mariners are also transmitted in text form in the NAVTEX broadcasts.

After doing an exhaustive search online, I received information from USCG District 8 that it has been determined that no Local Notices to Mariners (LNMs) or Broadcast Notices to Mariners (BNMs) have been issued regarding the marine floating barrier, or for any issue in the Eagle Pass, Texas, section of Rio Grande.

- F. **CFR § 2.36- Navigable Waters of the United States, Navigable Waters, and Territorial Waters and 33 U.S. Code Subchapter II - Waters Declared Non-navigable.** If a determination cannot be made by a mariner or riverman if a waterway is a "navigable water-of the United States" by employing any of the above listed resources, 33 CFR § 2.36- Navigable Waters of the United States, Navigable Waters, and Territorial Waters and 33 U.S. Code Subchapter II- Waters Declared Non-navigable can be referenced.
- G. **USCG and USACOE Publisher Instructions and Studies.** Additionally, when questions still exist, inquiries can be made to the U.S. Army Corps of Engineers or USCG district within which the body of water is located. This can result in finding that determinations have been made through USCG Commandant Instruction (COMDTINST) and published determinations, or in USACOE Studies that have been published. State laws can also be reviewed.

¹² 33 CFR § 7201-5 - Local Notice to Mariners

¹³ 33 CFR § 72.01-25 - Marine Broadcast to Mariners: <https://www.pacificarea.uscg.mil/Our-Organization/District-13/District-Staff/-dpw/-notices/#:::text=Broadcast%20Notices%20to%20Mariners%20are,to%20the%20safety%20of%20navigation>

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- 2 Utilizing the methodology described above, is the Eagle Pass section of the Rio Grande "a navigable water of the United States" and subject to the "U.S. Inland Rules of the Road"?

A. Navigability Determination Based upon Federal Sources

If "navigable water of the United States," is not known using the riverman or mariner's primary tools listed in A-F above, the definitive source with which to determine navigable designation and navigational requirements is the 33 CFR § 2.36 - Navigable Waters of the United States, Navigable Waters, and Territorial Waters. This chapter of the CFR specifies all navigable waters of the United States landward from the Exclusive Economic Zone.

In 33 U.S. Code Subchapter II - Waters Declared Non-navigable there is a long list of waters that congress has determined not to be navigable. The Rio Grande is not listed amongst those waters declared as such.

Of the other sources listed above, three (3) provide determinations supporting that the Rio Grande is a navigable water of the United States and are specified, excerpted, and cited below:

1. In the Commandant Instruction (COMDTINST) #16731, entitled, "Navigability Determination, Rio Grande River, TX," issued on October 19, 1984, by Thomas W. Snook, Commander of Eighth Coast Guard District, it states:
 1. From 1947 to 1975 the Rio Grande River was listed among the navigable waters of the United States pursuant to treaties with Mexico and for Coast Guard regulatory purposes. This determination covers the river "for the entire distance where it forms the international boundary, to a point near El Paso, Texas" or from its mouth at the Gulf of Mexico (mile 0.0 to mile 1247). [Eagle Pass is at approximately mile 475 and is, therefore, covered by this determination.] This finding was published at 33 C.F.R. § 2.66-5 until 1976 when the practice of publishing lists of waters determined to be navigable for Coast Guard jurisdictional purposes was discontinued.
 2. Under the rule that, despite artificial or natural obstructions, once a stream has been found to be of navigable use it remains so, the designated stretch of the Rio Grande River remains a navigable waterway of the United States."

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2. On December 20, 2011, the US Army Corps of Engineers, Fort Worth District, published a document entitled, Navigable Waters of the United States in the Fort Worth, Albuquerque, and Tulsa Districts within the State of Texas. In that document, the Rio Grande was listed as a navigable water "from the Zapata-Webb county line upstream to the point of intersection of the Texas-New Mexico state line and Mexico." ¹⁴ Eagle Pass is approximately at mile 475, which falls between those locations.
3. In the USACOE 1975 Navigability Study, Rio Grande, Tributaries and Lakes, in its section Findings of Navigability and Recommendations for Determination it states, "It is determined as of 26 March 1975 that the Rio Grande *from river mile 275.5 to 610.0 on the United States side from the centerline of the normal channel is navigable, and it is recommended that this portion of the Rio Grande be reaffirmed as a navigable water of the United States* [emphasis added]." ¹⁵ Again, at mile 475 the Eagle Pass section of the Rio Grande is within this range and is deemed "navigable." The study also says, "in its natural condition the Rio Grande has potential use for interstate commerce and can be navigated during periods of sufficient flow by shallow draft craft." ¹⁶

B. Navigability Determination Based upon the Texas Parks & Wildlife's River Guide

Many states have navigation rules in addition to the federal rules. In Texas, a stream is navigable if it is either "navigable in fact" or "navigable by statute." Simply put, a non-navigable stream is a stream which is neither navigable in fact nor navigable by statute.

Navigable in Fact: "A number of criteria have been suggested for whether a stream is navigable in fact. Some relate to passage by boats, others to the ability to float logs, and still others to its usefulness in commerce. Various courts, both state and federal, have recognized different tests. Texas courts have acknowledged a wide range of uses in support of navigability in fact. Texas courts have sometimes found navigability as resulting from capacity for commercial use." ¹⁷

¹⁴ Navigable Waters of the United States in the Fort Worth, Albuquerque, and Tulsa Districts Within the State of Texas
<https://www.swf.usace.army.mil/Portals/47/docs/regulatory/NavList2011.pdf>

¹⁵ USACOE 1975 Navigability Study, Rio Grande, Tributaries and Lakes, Page 9, Section 11

¹⁶ USACOE 1975 Navigability Study, Rio Grande, Tributaries and Lakes, Page 6, Paragraph 7, Part (a)

¹⁷ Texas Parks & Wildlife, Texas River Guide,

https://tpwd.texas.gov/publications/nonpwdpubs/water_issues/rivers/navigation/riddell/navigability.phtml#infact

"The entire bed is to be included in the width, not just the area covered by flowing water. The bed extends all the way between the fast land banks. These are the banks which separate the stream bed from the adjacent upland (whether valley or hill) and confine the waters to a definite channel. Further, stream segments having a width of less than 30 feet do not defeat the stream's navigability by statute, so long as the stream's width maintains an average of 30 feet or more."¹⁹

Based upon the definitions given and tests used by both the Federal government and the State of Texas, a riverman or merchant mariner would conclude that the Eagle Pass segment of the Rio Grande is "a navigable water of the United States." This conclusion is based upon research from commonly used maritime resources. That the river is physically navigable was empirically validated and bolstered by my site visit on February 20, 2024. During the site inspection, there were times in some areas of the river when multiple boats of different sizes and types were safely operating both upstream and downstream in proximity to each other with other vessels anchored and drifting.

The U.S. Inland Rules of the Road apply to all "navigable waters of the United States." Supporting this, the Water Safety Act, Chapter 31 of the Texas Parks and Wildlife Code, which applies to all public water of the state and to all watercraft navigated or moving on the public water, states: "The United States Coast Guard Inland Rules apply to all public water of this state to the extent they are applicable." 20

²⁰ Stream Navigation Law - Regulation of Water Safety, Parks & Wildlife Code§ 31.093, https://tpwd.texas.gov/publications/nonpwdpubs/water_issues/rivers/navigation/riddell/watersafety.phtml#:~:text=Parks%20%26%20Wildlife%20Code%20§%2031.093,Parks%20%26%20Wildlife%20Code%20§%2031.096.

3. Are the orange sphere components of the marine floating barrier buoys or floats?

In many of the descriptions of the marine floating barrier given in case file documents and testimony in this case, its orange spherical components are referred to as "buoys." They are, in fact, floats. The distinctions between buoys and floats may at first seem insignificant. However, other than the fact that they both float and some of them may have somewhat similar shapes, they are quite different in design and function as explained below.

A. Buoys:

A buoy is defined as, "a distinctively shaped and marked float, sometimes carrying a signal or signals, anchored to mark a channel, anchorage, navigational hazard, etc., or to provide a mooring place away from the shore. The only other type of buoy referenced is a, "life buoy," also known as a life ring.²¹

The International Maritime Dictionary describes a buoy as "floating object employed as an aid to mariners to mark the navigable limits of channels, their fairways, sunken dangers, isolated rocks, mined or torpedo grounds, telegraph cables, and the like. An anchor buoy, made fast by a line to the anchor, is used to mark the position of a ship's anchor after letting it go. Mooring buoys are used for securing a ship in lieu of anchoring."²²

Buoys are always independently anchored to the bottom often with concrete blocks by chains or cables running from their bottoms to the seafloor, lake, or riverbed. Floats are generally extended for distance and only anchored at intermittent distances.



NAVIGATION MARK BUOY



MOORING BUOY



SWIM AREA BUOY

EXHIBIT #3 - BUOY TYPES

²¹ Dictionary.com, <https://www.dictionary.com/browse/buoy>

²² International Maritime Dictionary, by Renee de Kerchove, Second Edition Van Nostrand Reinhold Publishing Company Merriam-Webster Dictionary, <https://www.merriam-webster.com/dictionary/float>

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E. Floats

A float is "something that floats [rests] in or on the surface of a fluid."²³ Floats generally support other objects on the surface of water or other liquid. Swimming floats assist people in swimming by increasing their buoyancy. Other floats are used in strings to delineate an area. When floats are significant in size and/or constructed of a hard material, collisions with floating objects can cause severe damage to vessels, endangering the lives of boaters and commercial vessel crewmembers, and can result in environmental damage.²⁴ Unless floats are sufficiently visible, including displaying flashing lights during periods of restricted visibility and at night to warn boaters of their location, they can create a very real allision (a moving object striking a stationary object) hazard. An example of one of the most dangerous of these is a dredge pipeline. These pipelines, often made of thick steel, are not buoyant and are suspended at the surface of the water with floats. If the floats are not obvious and suitably large or spaced closely enough, the pipeline can submerge and not be visible to boaters, especially at night if they are not properly lighted. If a boater was unaware of the marine floating barrier in Eagle Pass, or knew of it but was disoriented, and struck it or its mooring blocks at night at a high speed the result could be devastating. During my February 2024 site inspection visit, no lights were observed on the barrier.



EXHIBIT # 4 - PIPELINE AND FLOATS FOR DREDGE PUMPING²⁵

²³ Merriam-Webster Dictionary, <https://www.merriam-webster.com/dictionary/float>

²³ Maritime Dictionary, Mardict.com

²⁴ DAE Pumps, - www.daepumps.com

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A very common application for floats is as swim lane markers often seen and swimming pools. They are also sometimes used to indicate the boundaries of a swim area in open water.

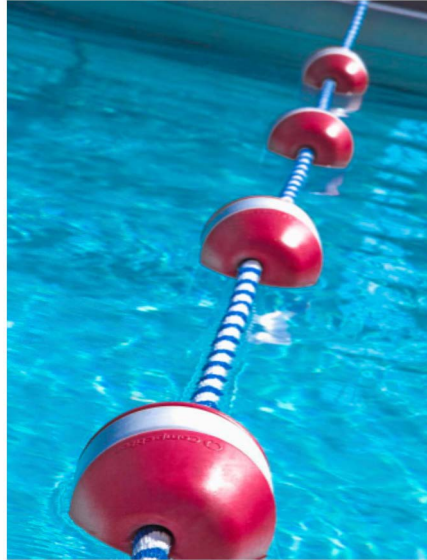


EXHIBIT #5-SWIMMING POOL FLOATS

The orange sphere components that comprise the Cochrane "Marine floating barrier" (see Exhibit #6 below) are not "floating object[s] employed as an aid to mariners to mark the navigable limits of channels, their fairways, sunken dangers, isolated rocks, etc." ²⁶ They are not buoys, they are floats.



EXHIBIT #6 - MARINE FLOATING BARRIER FLOATS

²⁶ International Maritime Dictionary, by Renee de Kerchove, Second Edition Van Nostrand Reinhold Publishing Company Merriam-Webster Dictionary, <https://www.merriam-webster.com/dictionary/float>

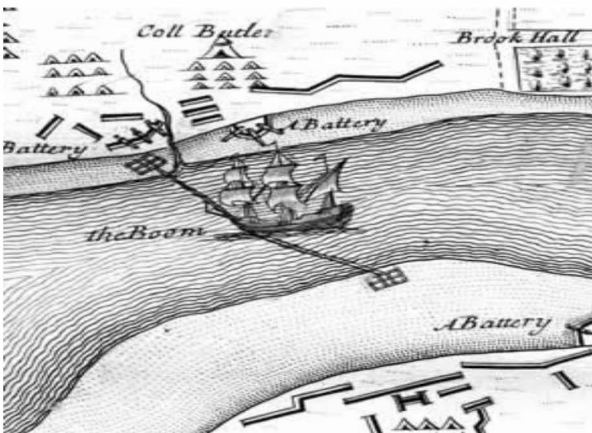
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4. What type of structure is the marine floating barrier that is installed in the Eagle Pass section of the Rio Grande?

There has been some suggestion by Texas that the marine floating barrier is neither a structure nor a boom. A structure is defined as: "something of many parts that is put together. A structure can be a skyscraper, an outhouse, your body, or a sentence. Structure is from the Latin word *structura* which means 'a fitting together, building.' Although it's certainly used to describe buildings, it can be more than that." ²⁷ The marine floating barrier that was constructed on site in the Eagle Pass section of the Rio Grande is a floating structure designed to obstruct persons and vessels from crossing the river in this area.

A. Booms

The word "boom" is the Dutch word for tree. German is similar: "baum." A boom is an obstacle strung or continuous barrier, usually floating at water level, within a navigable stretch of water to control or block navigation. Booms can be for military application with the goal of denying access to an enemy's ships; a modern example is the anti-submarine net. Booms could also be used, especially along rivers, to force passing vessels to pay a toll.²⁸



BOOM (BAUM) BLOCKING THE RIVER FOYLE
 DURING THE SIEGE OF DERRY IN 1689



MODERN DAY COCHRANE BOOM
 BLOCKING AN ENTRANCE TO A WATERWAY

²⁷ Definition, Meaning & Synonyms - Vocabulary.com

²⁸ NOAA, Office of Response and Restoration <https://response.restoration.noaa.gov/about/media/booms-beams-and-baums-history-behind-long-floating-barriers-oil-spills.html#:~:text=In%20the%20Middle%20Ages%2C%20logs,the%20British%20from%20sailing%20upriver> and <https://response.restoration.noaa.gov/oil-and-chemical-spills/oil-spills/spill-containment-methods.html>

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EXHIBIT #7 - IMAGES OF OLD AND NEW BOOM SYSTEMS

Given that the orange spherical components of the marine floating barrier are floats and not buoys, it is logical to construe that the barrier is not a buoy system. Despite efforts by Texas to establish otherwise, the marine floating barrier is, in fact, a boom. While not in common use in recent years, other than booms designed for oil containment (see Exhibit #7), booms played a significant military role in the past and present and are have been increasingly used for security purposes (power plants, military bases, etc.) in more recent years.



EXHIBIT #7 - OIL CONTAINMENT BOOM

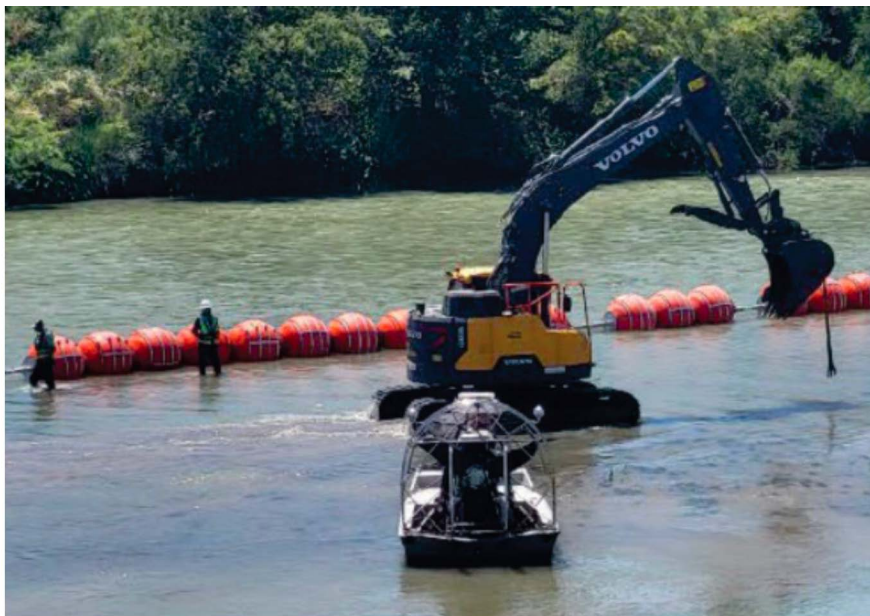
Containment booms are floating, physical barriers to oil, made of plastic, metal, or other materials, which slow the spread of oil and keep it contained.²⁹

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B. Site Inspection

On February 20, 2024, I was able to observe the Rio Grande firsthand by participating in a site inspection conducted by U.S. Border Patrol personnel of the Eagle Pass section including the area in which the marine floating barrier is deployed. The inspection was both on land by vehicle and by foot, and by water aboard airboats. In addition, both before and after the site visit I sent questions to the U.S. Customs and Border Protection agency (CBP), which the agency answered by email.

On the day of our site visit, the river level was at a moderate level and the current was swift. Several times during the inspection, civilian fishermen in privately-owned boats were observed underway, anchored, and drift fishing, supporting the position that commercial fishing charters, and river tours, in addition to the pre-existing kayak rentals and tours are certainly possible. This site inspection allowed for a close-range visual examination of the construction of the marine floating barrier. Inspection of the barrier clearly shows that it is a navigational boom specifically designed (as it was configured) to obstruct the passage of vessels and migrants. This, in fact, is the stated purpose for the barriers on the manufacturer, Cochrane's, website.³⁰



EXHIBIT# 8 - WORKERS INSTALLING MARINE BARRIER
NOTE SIZE AND **Low** HEIGHT OF SPHERES RELATIVE TO WORKERS

³⁰ Cochrane, Marine Floating Barrier; <https://www.cochraneglobal.com/maritime-security-marine-floating-barrier-by-cochrane-global/>

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The inspection also made it quite obvious that since the barrier is only one thousand (1,000) feet long, an individual would only have to move up or down the river a maximum of five-hundred (500) feet to cross unimpeded (see Exhibit #9 below).



EXHIBIT# 9 - MARINE FLOATING BARRIER SEEN IN ITS ENTIRETY
NEAR SHELBY PARK IN EAGLE PASS

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EXHIBIT #10 - THE MOORING BLOCKS OF THE MARINE FLOATING BARRIER
VISIBLE AT Low RIVER LEVEL

What the barrier does do, however, is to create a hazard to navigation. The barrier is held in place by sixty-eight (68) three thousand (3,000) pound concrete block anchors and seventy-five (75) that are approximately fifteen hundred (1,500) pounds each. When the river level is low, the blocks are visible (see Exhibit #10 above). When the level is high enough to cover the blocks, but not high enough to provide adequate clearance, it creates a significant grounding hazard (see Exhibit #11 below).



EXHIBIT #11 -U.S. C B P AIRBOAT INSPECTING BARRIER
OVER THE TOP OF ONE OF THE CONCRETE MOORING BLOCKS

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While its effectiveness in stopping or even reducing the number of migrants crossing the river is questionable, it is quite successful in reducing the width of navigable waterway and impeding the safe maneuverability of vessels in its proximity. This impact is experienced regularly by CBP airboats. As confirmed by CBP, their vessels do not have a reverse or neutral mode and cannot be steered except when they are underway in a forward direction. This creates an inability to stop quickly or to turn sharply at slow speeds. This is particularly true on the U.S. side of the barrier since it was repositioned closer to the east bank due to concerns regarding the international boundary located approximately in the middle of the river. The barrier also makes it necessary for a CBP boat to go around the end of the barrier to get to the other side of it.



EXHIBIT #12 -FLOATING BARRIER As SEEN FROM EAST BANK (U.S. SIDE) OF THE Rio GRANDE

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5. Does the marine floating barrier create a navigational obstacle and/or obstruction?

C. Obstacles

An obstacle is "something that impedes progress or achievement."³¹ It is anything that blocks one's way or prevents or hinders progress. If there is something in a channel or river that can be maneuvered around it is an obstacle. A buoy, channel marker, wreck, anchor boat, or shoal that can be maneuvered around are all examples of obstacles.

D. Obstructions

An obstruction is something that completely clogs or blocks a passage.³² If there is something in a channel or river that cannot be maneuvered around it is an obstruction. This could be a wreck or shoal, logs, a dam, rocks, or a barrier block entire channel or river. An object that is simply an obstacle for vessels that are smaller, have a shallow draft, or are more maneuverable maybe an obstruction to larger or deeper vessels. Both obstacles and obstructions can diminish navigable capacity by restricting the size, draft, or speed of a vessel. If a vessel is required to operate at a lower speed because of restricted maneuvering space created by an obstacle or obstruction, the navigable capacity has been diminished.

In the photograph below (see Exhibit #13 below), you can observe that the end of the barrier curves inward towards shore at the right end of the image. You can also see that the available depth of the water there appears to be quite shallow. That this observation is accurate can be verified by looking at the mooring blocks sitting in the water and seeing how much of their sides are exposed. While the marine floating barrier is certainly an obstacle under any circumstances, positioned as it is this photograph it also constitutes an obstruction.



EXHIBIT #13 - IMAGE OF THE MARINE FLOATING BARRIER CREATING AN OBSTRUCTION
 IN THE EAGLE PASS SECTION OF THE RIO GRANDE

³¹ Merriam-Webster Dictionary, <https://www.merriam-webster.com/dictionary/obstacle>

³² Merriam-Webster Dictionary, <https://www.merriam-webster.com/dictionary/obstruction>

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6 Is the marine floating barrier a hazard to navigation?

To determine whether the marine floating barrier in the Eagle Pass area of the Rio Grande has created a hazard to navigation, a three-pronged approach was employed:

- 1.) Conduct research and analysis;
- 2.) Ask questions of mariners who have operated on the Rio Grande in the vicinity of the marine floating barrier; and
- 3.) Participate in a site inspection.

Examination of the aerial photograph of the Eagle Pass segment of the Rio Grande shown below (see Exhibit #14) reveals that the placement of the marine floating barrier approximately bisects the United States' half of the river, reducing the available navigable water by at least half. Moreover, considering that the center of a river is usually deeper than the edges, the deepest part of the American side of the river has been made inaccessible to U.S. citizens. Accordingly, as the depth of the water in rivers is generally less the nearer one gets to the bank, it is more likely than not that the safe water has been diminished significantly more than half.

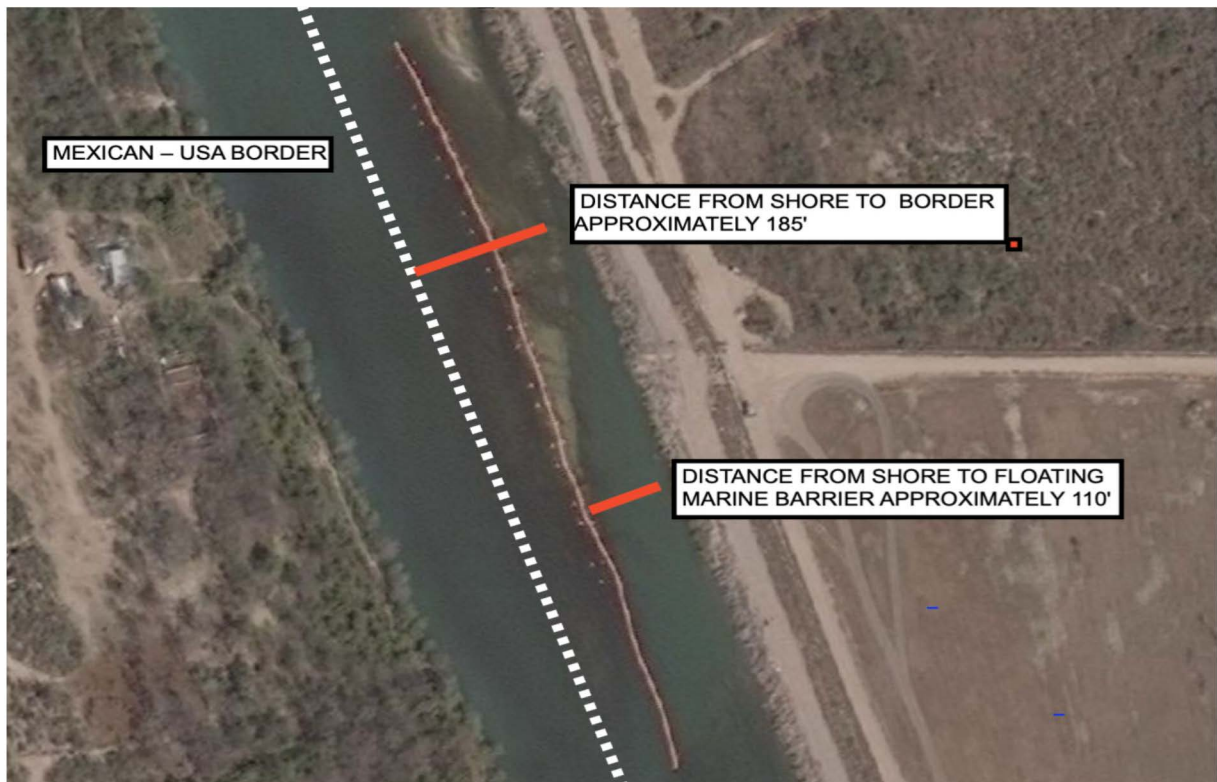


EXHIBIT #14 -AERIAL VIEW OF MARINE FLOATING BARRIER
WITH ROUGH ESTIMATES OF DISTANCES

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It should also be pointed out that including the mooring blocks and their securing chains, the barrier is much wider than the 4' - 6' diameter of the orange spherical floats as was suggested. With the 3,000 pounds concrete blocks along with the 12' mooring chains on each side, *the total width of the structure could possibly be as much as 26' to 28'*. These blocks also create divergent currents and eddies, which can have very negative effects, such as causing vessels to veer unexpectedly, when navigating in close proximity to them. It must also be noted that in deeper water, or when the level of the river rises, these immovable concrete blocks will be just below the muddy water's surface, are unmarked, and will be invisible to boaters. This substantially increased width of the structure, along with the non-visible and unmarked mooring blocks, increases the potential for groundings and/or forces vessels to navigate in closer proximity to each other increasing the potential for collisions and allisions (a moving vessel striking a fixed object such as the orange spherical floats or their mooring blocks). A structure that escalates the probability of hard groundings, allisions, and collisions is most certainly a hazard to navigation.

Furthermore, at the time of my site inspection it was noted that there were no lights attached to the barrier in any fashion. Warning lights that indicate the position of the barrier and mooring blocks should be mounted along the entire length of the marine floating barrier. These lights should come on automatically during periods of restricted ability and at night from sunset to sunrise. Failure to exhibit these lights considerably increase the possibility of allision with the structure by vessels operating in the area during those times.

Questions were developed by me and sent to the USDOJ to forward to the CBP personnel working in the vicinity of the marine floating barrier. The questions in the survey included queries about how the barrier has impacted CBP's daily operations. CBP's written answers are identified in Section VII.4.I, VII.4.J, and VII.4.K of this report. Below are several of CBP's responses.

CBP personnel, who "observed the installation daily to report up the chain of command the state of Texas' progress" stated that they had seen "Large, tracked excavators and several small boats. Small boats were used to move around personnel and provide security for the site." When asked if the marine floating barrier created any hazards to navigation for Federal agencies, CBP responded, "Yes, the concrete anchors to keep the buoys in place create a navigational hazard (danger of striking anchors) and the restricted navigational hazard of traversing the area." In response to the question if the marine floating barrier impacted the density of vessel traffic - i.e., are vessels forced to operate more closely together because of the reduced area in which to operate - CBP answered, "Yes, only one boat can be in the area of the

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location of the buoys." CBP personnel also stated that they felt the floating barrier made performing the duties required by their job more dangerous, that it created a "navigational hazard and restricted operating area."

Jeremy Wall, Supervisory Hydrologic Technician for the U.S. Section of the International Boundary and Water Commission (IBWC), Water Accounting Division, was asked if the marine floating barrier affected his team while performing their duties. His response was, "All measuring utilizes the full channel width (varies by river height), anything in the channel would prevent (if could not go over or around) or greatly diminish the quality (can maneuver closely around but could not measure the water underneath or directly near structure) of the measurement."

7. Does the marine floating barrier diminish the "navigable capacity" of the Rio Grande?

Navigable capacity depends upon several factors. Performing a thorough analysis of the impact of the installation of the marine floating barrier upon the navigable capacity the Rio Grande would be incomplete without considering the U.S. Inland Rules of the Road. There are at least two rules that come into play. They are:

A. Rule 6 - Safe Speed:

"Every vessel shall at all times proceed at a safe speed so that she can take proper and effective action to avoid collision and be stopped within a distance appropriate to the prevailing circumstances and conditions. In determining a safe speed the following factors shall be among those taken into account:

(a) By all vessels:

(iii) The maneuverability of the vessel with special reference to stopping distance and turning ability in the prevailing conditions;

(v) The state of wind, sea and current, and the proximity of navigational hazards;

Inland Navigation Rule #6 - Safe Speed requires that all vessels maintain a speed that allows them to respond properly and be stopped within a distance that allows them to avoid a collision at all times. It goes on to say that the prevailing circumstances must be taken into consideration. This means that vessels operating in confined areas, such as created by the marine floating barrier, must operate at slower speeds in order to be safe. Because of this rule, the barrier reduces the safe speed on the Rio Grande.

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B. Rule 7 - Risk of Collision:

- (a) Every vessel shall use all available means *appropriate to the prevailing circumstances and conditions to determine if risk of collision exists. If there is any doubt such risk shall be deemed to exist.* [Emphasis added.]
- (d) In determining if risk of collision exists the following considerations shall be among those taken into account:
 - (ii) Such *risk may sometimes exist....* *when approaching a vessel at close range.* [Emphasis added.]

The marine floating barrier causes vessels to meet or overtake other vessels at a closer range. This increases the risk of collision and requires that vessels keep at a greater distance when approaching other vessels and the area of the barrier.

Stating that the marine floating barrier does not reduce navigable capacity of vessels going up and down the river since the barrier runs parallel to the direction of the river is like saying it would not reduce capacity of vessels crossing the river if it ran perpendicular to the direction of the river. Navigable capacity depends on the ability to navigate *safely* in any direction, not just in the direction that the barrier is deployed.

Similarly, it has been implied that the barrier does not reduce navigable capacity of the river because its installation is "temporary." Being securely moored to the bottom of the river with chains and wire cables to approximately 158 tons (316,500 pounds!) of concrete blocks hardly qualifies it as a temporary structure. Virtually any man-made structure can be removed with adequate time, the right tools, and enough effort. However, it would be a time-consuming task to dismantle and remove all the elements of the marine floating barrier and its 1,500 and 3,000-pound mooring blocks can only be removed with heavy machinery. Even if the marine floating barrier was considered a temporary structure, it still reduces navigable capacity during the period in which it is in place for the reasons discussed above..

Clearly the marine floating barrier reduces the navigable capacity of the Rio Grande.

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V. OPINIONS RENDERED

Based upon an examination and review of the sworn testimony, declarations, records, evidence, studies, texts, and resources listed herein; an evaluation of the pertinent laws, rules and regulations cited; discussions with peers and colleagues in the maritime industry and/or admiralty law practice; and consideration of the knowledge of maritime standards and practices acquired through decades of professional training and experience; I have concluded with a reasonable degree of professional certainty that it is more likely than not that:

1. A professional mariner determines if a body of water that he or she is or is planning to operate upon is classified as a "navigable water of the United States," which indicates what set of rules and regulations they must follow, in two different ways. They can do this by referring to federal publications that designate which waters are "navigable" and, in some cases, those that are not. If there are unable to make this determination the traditional resources, they can contact the local district offices of the U.S. Coast Guard or U.S. Army Corps of Engineers for clarification.
2. Utilizing the above stated methodology that is used by professional mariners, I have determined that the Eagle Pass section of the Rio Grande is "a navigable water of the United States" and subject to the "U.S. Inland Rules of the Road."
3. The orange sphere components of the marine floating barrier deployed in the Eagle Pass section of the Rio Grande are floats, not buoys.
4. The marine floating barrier installed in the Eagle Pass section of the Rio Grande is a marine structure known as a "boom" and requires a permit issued by the District Engineer of the Fort Worth District of the US Army Corps of Engineers before being installed.
5. Depending upon its configuration in relation to the shoals and bank of the river, the marine floating barrier in the Eagle Pass section of the Rio Grande is either a marine obstacle or obstruction, or both.
6. The marine floating barrier in the Eagle Pass section of the Rio Grande is a hazard to navigation.
7. As long as the marine floating barrier remains in the Eagle Pass section of the Rio Grande it is an obstacle and/or obstruction that creates a hazard to navigation which reduces the safe speed and increases the risk of collision, allision, and grounding when a vessel is maneuvering within its vicinity and, thereby, diminishes the navigable capacity of the Rio Grande.

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VI. EXPERT'S STATEMENT & SIGNATURE

I, Captain John C. Timmel, did consider the documents, materials, facts, and data cited in Section VIII of this report and reached the conclusions and opinions contained herein.

A handwritten signature in black ink, appearing to read "John C. Timmel". The signature is written in a cursive style with a large initial "J" and a distinct "T".

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VII. DOCUMENTS, MATERIALS, AND DATA CONSIDERED

The opinions rendered and stated in this report are based upon review and analysis of various documentary materials including the following case file documents, depositions, statements, records, diagrams, photos, videos, and other evidence provided to Starboard Ten, Inc. and discovered during research which are listed below and/or cited elsewhere in this report.

1. Court Filings:

- A. ECF 5-1, page 5 of 11 (Garcia Deel. Ex. 1.1), PI Hearing Exhibit G-2
- B. ECF 5-1, page 6 of 11 (Garcia Deel. Ex. 1.2), PI Hearing Exhibit G-3
- C. ECF 5-1, page 7 of 11 (Garcia Deel. Ex. 1.3), PI Hearing Exhibit G-4
- D. ECF 5-1, page 9 of 11 (Garcia Deel. Ex. 2.1), PI Hearing Exhibit G-5
- E. ECF 5-1, page 10 of 11 (Garcia Deel. Ex. 2.2), PI Hearing Exhibit G-6
- F. ECF 5-1, page 11 of 11 (Garcia Deel. Ex. 2.3), PI Hearing Exhibit G-7
- G. ECF 5-2, page 8 of 21 (Gomez Deel. Ex. A.2), PI Hearing Exhibit G-10
- H. ECF 5-2, page 10 of 21 (Gomez Deel. Ex. B.1), PI Hearing Exhibit G-11
- I. ECF 5-2, page 11 of 21 (Gomez Deel. Ex. B.2), PI Hearing Exhibit G-12
- J. ECF 5-2, page 12 of 21 (Gomez Deel. Ex. B.3), PI Hearing Exhibit G-13
- K. ECF 5-2, page 14 of 21 (Gomez Deel. Ex. C.1), PI Hearing Exhibit G-14
- L. ECF 5-2, page 15 of 21 (Gomez Deel. Ex. C.2), PI Hearing Exhibit G-15
- M. ECF 5-2, page 16 of 21 (Gomez Deel. Ex. C.3), PI Hearing Exhibit G-16
- N. ECF 5-2, page 17 of 21 (Gomez Deel. Ex. C.4), PI Hearing Exhibit G-17
- O. ECF 5-2, page 19 of 21 (Gomez Deel. Ex. D.1), PI Hearing Exhibit G-18
- P. ECF 5-2, page 20 of 21 (Gomez Deel. Ex. D.2), PI Hearing Exhibit G-19
- Q. ECF 5-2, page 21 of 21 (Gomez Deel. Ex. D.3), PI Hearing Exhibit G-20
- R. Shelnutt Deel. Attach 1, PI Hearing Exhibit G-26
- S. Shelnutt Deel. Attach 2, PI Hearing Exhibit G-27
- T. ECF 37-5, Shelnutt Deel. Ex. A, 6-7 of 100 (1975 USACE Navigability Determination),
PI Hearing Exhibit G-34
- U. ECF 37-5, Shelnutt Deel. Ex. B, pages 9-100 of 100 (1975 USACE Navigability Study),
PI Hearing Exhibit G-35

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- V. ECF 39-3, page 3 of 6 (Siller Deel. Attach 1), PI Hearing Exhibit G-39
 - W. ECF 39-4, page 4 of 6 (Siller Deel. Attach 2), PI Hearing Exhibit G-40
 - X. ECF 39-5, page 5 of 6 (Siller Deel. Attach 3), PI Hearing Exhibit G-41
 - Y. ECF 39-6, page 6 of 6 (Siller Deel. Attach 4), PI Hearing Exhibit G-42
 - Z. PI Hearing Exhibit G-52 (July 7, 2023 photo)
 - AA. PI Hearing Exhibit G-53 (photo)
 - BB. PI Hearing Exhibit G-54 (Aug. 19, 2023 photo)
 - CC. PI Hearing Exhibit G-55 (Aug. 19, 2023 photo)
 - DD. PI Hearing Exhibit G-56 (Aug. 19, 2023 photo)
 - EE. PI Hearing Exhibit G-57 (Cochran Website)
 - FF. ECF 5-4, pages 5-6 of 6 (1984 USCG Navigability Determination)
 - GG. ECF 26-3 (Flossman Deel.)
 - HH. ECF 37 (United States' Reply in Support of Motion for PI)
 - IL ECF 45 (United States' Post-PI Hearing Closing Argument)
 - JJ. ECF 46 (Texas's post-PI Hearing Closing Argument)
 - KK. ECF 50 (Court's Sept. 6, 2023 Order Granting Preliminary Injunction)
2. Preliminary Injunction Hearing Testimony
- A. Transcript of Hearing Testimony of Loren Flossman
 - B. Transcript of Hearing Testimony of Joseph Shelnutt
3. Subpoenaed Documents
- A. Documents Produced by Cochrane Global in response to USDOJ subpoena (received from USDOJ May 8, 2024)
4. Responses to Questions and Other Documents Received from Agencies
- A. Maps and Aerial Photo from USACE (ten documents total), Received by Email Jan. 26, 2024
 - B. Special Flood Hazard Area Map from USACE, Received by Email Jan. 29, 2024
 - C. Maps from USIBWC, Received by Email Jan. 29, 2024
 - D. Information from USIBWC Received by Email Feb. 13, 2024 (1st of 5 Transmissions)
 - E. Information from USIBWC Received by Email Feb. 13, 2024 (2nd of 5 Transmissions)

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- F. Information from USIBWC Received by Email Feb. 13, 2024 (3rd of 5 Transmissions)
- G. Information from USIBWC Received by Email Feb. 13, 2024 (4th of 5 Transmissions)
- H. Information from USIBWC Received by Email Feb. 13, 2024 (5th of 5 Transmissions)
- I. USCBP Answers to My Questions, Received by Email Feb. 14, 2024
- J. USCBP Updated Answers to My Questions, Received by Email Feb. 16, 2024
- K. USCBP Answers to My Follow-Up Questions, Received by Email Feb. 29, 2024
- L. Article on Marine Barrier Materials and Oct. 16, 2023 Aerial Photo from USACE, Received by Email Mar. 27, 2024
- M. Graphic of USACE Galveston District Navigation System, Received by Email Apr. 15, 2024
- N. Seven Documents from USACE Pertaining to the St. Johns River, Alafia River, and Big Bend Channel, Received by Email in Two Transmissions on Apr. 15, 2024
- O. USACE Response to My Questions, Received by Email Apr. 18, 2024
- P. USACE Response to My Questions, Received by Email Apr. 19, 2024
- 5. Reference Resources
- 6. U.S. Regulations & Codes
 - A. 33 CFR Part 329 Definition of Navigable Waters of the US - E Code of Federal Regulations (ECFR), Title 33, Chapter II, Part 329, <https://www.ecfr.gov/current/title-33>
 - B. 33 CFR Part 329 Definition of Navigable Waters of the US - USACE Philadelphia District (.mill), <https://www.nap.usace.army.mil/Portals/39/docs/regulatory/regs/33cfr329.pdf>
 - C. 33 U.S. Code § 401 - Construction of bridges, causeways, dams or dikes generally; exemptions - Legal Information Institute, Cornell Law School, <https://www.law.cornell.edu/uscode/text/33/401>
- 7. Websites
 - A. MarineBuoy, MarineBuoy.com
 - a. Safe Water Mark, <https://www.marinebuoy.com/navigation-buoys/safe-water-mark-buoys/>
 - b. Mooring Buoy, <https://www.marinebuoy.com/mooring-buoys/inflatable-mooring-buoy/>
 - c. Special Purpose, <https://www.marinebuoy.com/navigation-buoys/special-mark-buoys/>

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- B. Pool Supplies Superstore
 - a. <https://www.poolsuppliessuperstore.com/jim-buoy-423-o-barrier-swim-area-buoy>
- C. Cochrane Global, Marine Floating Barriers - Images
 - a. Floating Barriers, <https://www.cochraneglobal.com/product-type/3-water-barrier/>
- D. Rio Grande, Leon C. Metz, Published: 1952, Updated: June 13, 2020, Texas State Historical Association, <https://www.tshaonline.org/handbook/entries/rio-grande>

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VIII. EXPERT'S C.V. - Updated 5/5/24

PROFESSIONAL LICENSES & ENDORSEMENTS (PAST & PRESENT)

Florida State Unlimited Pilot License -Tampa Bay and All Its Tributaries
U.S.C.G. Unlimited Federal Pilot License -Tampa Bay and All Its Tributaries
Master Mariner - 3,000 GRT Upon Oceans
Chief Mate - Unlimited Upon Oceans
Radar Observer's & ARPA Endorsement
Bridge Resource Management Endorsement I & II
FCC Radiotelephone Operator's License
STCW Certifications
Boat U.S. Boating Safety & PWC Safety Certifications

PROFESSIONAL EMPLOYMENT

Starboard Ten, Inc. Maritime Expert Witness Services 1995-Present
Founder, President, & CEO

Provides forensic litigation and expert witness services pertaining to piloting, shiphhandling, seamanship, navigation, International & U.S. Inland Rules of the Road, pleasure craft & PWC operations, and boating & PWC accident analysis and reconstruction.

Tampa Bay Pilot Association & Tampa Pilots, LLC 1988 - 2021
Harbor Pilot, President, Past Vice President, Active Harbor Pilot, Co-Director of Vessel Handling Guidelines, Past Director of Deputy Training
Provides State & Federal licensed pilotage services to all types of ships, tugs & barges, and other vessels of unlimited size and tonnage on Tampa Bay and all its tributaries. Has piloted over 6,500 safe transits of Tampa Bay and conducted over 8,500 safe docking, undocking, and anchoring maneuvers.

Gulf Coast Maritime Academy 2017-2023
Co-Founder & CEO
Founded and operates a USCG-approved training facility located in historic Port Tampa Bay specializing in maritime training for the cruise, offshore oil & gas support vessel, coastal shipping, charter boat, and yachting industries from entry-level Ordinary Seamen to unlimited Masters and Chief Engineers. Also provides training in recreational boating seamanship, boat handling, safety and navigation.

State University of New York Maritime College at Ft. Schuyler 2007, 2008 & 2016
Adjunct Professor
Instructed nearly 400 cadets aboard the Training Ship EMPIRE STATE VI during Summer Sea Terms in shiphhandling, navigation, shipboard operations, seamanship, bridge watchstanding protocol, & international standards.

City of Tampa 2003-Present
Mayor's Maritime Liaison
Appointed as the honorary liaison and maritime issues advisor between the Mayor of Tampa, the Honorable Pam Iorio, and Tampa's port and yachting communities. Reappointed and served in the same role with the subsequent Mayor Bob Buckhorn and Mayor Jane Castor.

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American Victory Mariners Memorial & Museum Ship 1997 - 2003 & 2008 - Present

Founder, Chairman of the Board, Past Executive Director, & President Emeritus
Conceived, founded, and presided over this not-for-profit organization to rescue a 455' WWII Victory class ship, the S/S AMERICAN VICTORY, from scrapping and to establish a maritime museum aboard her to honor the American Merchant Marine and their contributions in times of war and peace.

Tampa Bay Vessel Information and Positioning Systems, Inc. (VIPS) 1993 -1998
Founder & President

Established this not-for-profit company to develop a CPS-based ship navigation system for Tampa Bay. This company was instrumental in the conceptual design of the system which is currently in use in Tampa Bay and has been used as a model for developing similar systems worldwide.

Exxon Shipping Company 1981 - 1987
Ship's Officer

Sailed as a Deck Officer in Exxon's Ocean Tanker Fleet in both the coastwise and foreign port trade on board a variety of crude oil, refined product, and specialty chemical tankers.

PROFESSIONAL ORGANIZATIONS

The American Boat & Yacht Council

Florida Harbor Pilots Association

Past Vice President

Maritime Law Association of the United States

Southeast Admiralty Law Institute

SEAK Expert Witness Institute

American Pilots Association

International Association of Marine Pilots

International Propeller Club of the United States - Port of Tampa

Port of Tampa Maritime Industries Association

Mayor of Tampa's Ex-Officio Representative

MARITIME EDUCATION

State University of New York Maritime College at Ft. Schuyler 1978 - 1981

B.S. Marine Transportation

Graduated Cum Laude with Admiral's Honor, Class President, Cadet Navigator, Lettered in Swimming, Diving, & Sailing

License Upgrade & Pilot Continuing Education Programs 1981 - 2021

Bridge Resource Management I & II

Azipod & Simulator Training -Maritime Institute of Training & Graduate Studies in Linthicum Heights, MD

Simulator Training - U.S. Army Corps of Engineers Center in Vicksburg, VA

STWC Certification Training Programs

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SAS Flight Academy - Sidney, Australia 1999
 SAS Bridge Resource Management Program
Attended as a consultant on behalf of Mobil Shipping, Inc. to evaluate the Australian method of teaching Bridge Resource Management in comparison to that used in the United States.

Port Revel Manned-Model Shiphandling Simulator Training 2010
 Grenoble, France

HONORS

Propeller Club - Port of Tampa
Member of the Year 1996
Maritime Person of the Year 1999
Lifetime Achievement Award 2000
 Propeller Club - Southeastern United States
Maritime Person of the Year 2001
 Propeller Club - United States
International Maritime Person of the Year 2002
 Tampa Bay Regional Planning Council's "Future of the Region"
1st Place Cultural Achievement Award for work on SS American Victory 2013
 Greater Tampa Chamber of Commerce - Leadership Tampa Alumni
Parke Wright, III Leadership Award 2013

PAPERS & PUBLICATIONS

"The Effect of Changes to Rule 26 on Maritime Litigation & Marine Insurance Industry"
 1994
 "The Role of Pilots in the Development of VTS and Vessel Positioning Technology"
 2018

BOARDS & ADVISORY COMMITTEES

American Victory Mariners Memorial & Museum Ship
Founder, Past President & Chairman, Current Execution Committee Member
 Tampa Yacht & Country Club
Commodore, Governor, Fleet Captain, & Marina Committee Chairman, Director & Re-Founder of Youth Sailing
Florida Council of Yacht Clubs
Commodore, Director, Past West Coast Fleet Captain & Past U.S. Coast Guard Liaison
Propeller Club - Port of Tampa
Past President & Chairman
Propeller Club of the United States
Past National Executive Committee
U.S. Naval Academy at Annapolis & U.S. Merchant Marine Academy at King's Point
Past Congressional Academy Appointment Committee - U.S. House Rep. Katherine Castor & U.S. House Rep. Jim Davis
Tampa Bay Harbor Safety Committee

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Vessel Movement Committee
Tampa Bay Dragon Boats
Past Director
Ye Mystic Krewe of Gasparilla's Ship & Invasion Committee
Chairman
Tampa's Gasparilla Festival's Pirate Ship JOSE GASPARILLA
Sail Master
BSA Sea Explorer Ship 555
Founder & Past Skipper
America Sails Tall Ships Committee for Tampa Bay
Founder & Past Chair
Seaport Sertoma
Past Member
Greater Tampa Bay Marine Advisory Council (GTBMAC)
Founder & Chairman - GTBMAC's VTS Task Force; GTBMAC's PORTS Task Force Member
Florida Harbor Pilots Association
Past Vice President
American Pilots Association
Past Navigation Technology Committee Member
National Safety Council- Marine Section
Past Marine Emergency Spill Responders Division
Tampa Bay Regional Planning Council
Agency on Bay Management - Past Director Executive Steering Council
Tampa Bay National Estuary Program
Founding Co-Chairman of the Citizen's Advisory Council
Tampa Baywatch
Past Director Advisory Council
Hillsborough County Sheriff's Department
Honorary Deputy Sherriff
Tampa Bay History Center
Past Board of Trustees
Greater Tampa Chamber of Commerce
Past: Governor - Board of Governors; Director - Infrastructure's Board of Directors; Member - International Trade Development Council; Member - Port Maritime Council; Member - Education Council; Member - Environmental & Natural Resource Council
Boy Scouts of America - Troop 22
Past Assistant Scout Master
Egmont Key Alliance
Co-Founder & Co-Chair
Great American Teach-In & S.E.R.V.E.'s Educational Outreach
Guest Teacher

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IX. CASES IN PREVIOUS FIVE (5) YEARS IN WHICH EXPERT TESTIFIED (Revised: 5/5/24)

PLAINTIFF CASES:

1. 2018 - Johnson v. Sable Ridge et al- Case No. 51-2016-CA-002671- In the Circuit of the Sixth Judicial Circuit in and for Pasco County, Florida - Steve Parker, Harmon Parker - Civil Division

Involved a tube being towed by a jet ski striking a dock on East lake in Pasco County. Concerned a failure of an HOA and its management company to properly manage the safety aspects of the lake in general and the failure to mark a hazard to navigation and to warn users of the lake of its existence. Deposed.
2. 2018 -Steck v. Ft. Myers Beach & DEP - Shanosky - '18

Regarding maneuverability of vessels around a dock. Deposed & Testified

DEFENDANT CASES:

1. 2019- Bruni v. Alger - Duensing- Duensing Casner

A passenger purportedly sustained a back injury by being thrown from his seat in the bow of a boat by a supposed rogue wave. Deposed.
2. 2020- Florida v. James Allen Vessel Homicide Case - Jerry Berry Law - Jerry Berry

Vessel homicide case in which a swimmer was struck by a boat and sustained fatal propeller strike injuries. Deposed. Case on Appeal.

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X ADDITIONAL RULE 26(A)(2) DISCLOSURES

1. Facts and Data Considered

All facts and data considered in the drafting of this report are listed in Part VII of this report and/or cited elsewhere within the report.

2. Exhibits to Summarize or Support Opinions

All exhibits that will be used to summarize or support the opinions contained in this report are included in this report.

3. Qualifications

My qualifications, including publications I have authored over the past 10 years, are described in Parts II and VIII of this report.

4. Expert Witness Testimony over Past 4 Years

Cases in which I have testified as an expert witness at deposition or trial during the previous 4 years are identified in Part IX of this report.

5. Compensation

My compensation rate for this case is \$495 per hour.